

DETAILED ACTION

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 11 - 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Wilson (1,751,261).

Re: **Claim 11**, Wilson discloses a buffer *for an elevator system*, the buffer comprising:

- a conical coil spring (Fig.'s 1 - 3,
- wherein the buffer is configured to be disposed at one end (7) of a hoistway of the elevator system *for contacting a vertically moving member (6) of said elevator system in the event of an abnormal overrun*,
- wherein the conical coil spring includes a spiral coil element that comprises a series of coils (1, 2, 3, 4 5, 6),
- wherein a radius of the spiral coil element decreases along an axis of the conical coil spring such that if the spiral coil spring is fully compressed, the coils of the spiral coil spring are configured to be arranged in a substantially planar configuration (Fig. 3, Pg. 2, L. 1 - 11& 80 – 88),
- wherein a thickness of the coil element is substantially uniform between an outermost coil and an innermost coil, and
- wherein a thickness of the outermost coil varies so as to create a substantially flat bottom contact surface.

In reference to the claim language referring to *for an elevator system* and *for contacting a vertically moving member of said elevator system in the event of an abnormal overrun*, intended use and other types of functional language must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto, 136 USPQ 458, 459 (CCPA 1963).

Re: **Claim 12**, Wilson discloses wherein an outer radius of a coil is less than an inner radius of an adjacent coil, thereby permitting said coils to be compressed axially without experiencing radial interference.

Re: **Claim 13**, Wilson discloses wherein a cross-section of the coil element is circular.

Re: **Claim 14**, Wilson discloses wherein a cross-section of the coil element has an arcuate outer surface.

Re: **Claim 15**, Wilson discloses wherein a transverse coil pitch of the coil element is constant.

Claims 16 - 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson in view of Hongo (5,370,207).

Wilson is silent with respect to an elevator system.

Attention is directed to Hongo who reviews buffers as known in the art and his vertically moving element that contacts his buffer is a counterweight (Fig. 1, Col. 1, L. 30 – 40) as well as elevator cars in the “pit” of a hoistway as known in the art.

It would have been obvious to one of ordinary skill in the art to modify the invention Wilson with the teaching of Hongo to position a buffer of Wilson beneath a counterweight and/or elevator car as taught by Hongo to provide an energy-absorbing/releasing bearing surface for said counterweight and/or elevator car when

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said counterweight and/or elevator car is positioned in a lowermost position of a hoistway to facilitate lowering of an elevator car/upward movement of a counterweight.

Claims 1 – 6 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fry (835,157) in view of Wilson.

Re: **Claims 1 - 2**, Fry discloses a buffer (11, Fig. 2) *for an elevator system*, the buffer comprising:

- a conical coil spring,
- wherein the buffer is configured to be disposed at one end (7) of a hoist-way of the elevator system *for contacting a vertically moving member (5) of said elevator system in the event of an abnormal overrun*,
- wherein the conical coil spring includes a spiral, coil element that comprises a series of coils,
- wherein a radius of the spiral coil element decreases along an axis of the conical coil spring;
- wherein a thickness the innermost coil radially varies *so as to create a substantially flat contact surface* (Fig. 4, upper portion forms a flat contact surface when said coil is compressed); however,

Fry is silent with respect to the coils of the spiral coil spring, when said spring is fully compressed, are configured to be arranged in a substantially planar configuration, and wherein a thickness of the coil element is substantially uniform between an outermost coil and an innermost coil.

Attention is directed to Wilson who teaches his coil spring (Fig.'s 1 – 3) comprising coils (1 – 5) which when fully compressed, are configured to be arranged in a substantially planar configuration (Fig. 3, Page 2, L. 1 – 11 & L. 80 – 88), and wherein a thickness of the coil element is substantially uniform between an outermost coil and an innermost coil, whereby "... the spring will react in a truly perpendicular relation with respect to said [end of the hoistway and vertically moving member] and there will be no tendency whatsoever for the spring to tilt or creep laterally" (Pg. 2, L. 11 - 17).

It would have been obvious to one of ordinary skill in the art to modify the reference of Fry with the teaching of Wilson to utilize a conical coil spring as a buffer in an elevator system, wherein said coil spring is arranged to be substantially planar when fully compressed and having a uniform thickness between its outermost- and innermost coil, to promote a truly perpendicular reaction force along an axis of said spring without causing any damage or plastic strain to said coils of said spring when compressed or incurring lateral tilting or creep of said coils, for optimized, repeatable (energy absorbing/releasing) performance and enhanced service life of said spring, as well as maintaining vertical motion of said moving member in one plane.

Re: **Claim 3**, Fry discloses wherein a cross-section of the coil element is circular.

Re: **Claim 4**, Fry discloses wherein a cross-section of the coil element is arcuate.

Re: **Claim 5**, Fry is silent with respect to wherein a transverse coil pitch of the coil element is constant.

Attention is directed to Wilson who teaches his coil spring who teaches said spring having a constant transverse coil pitch wherein said coil spring compresses uniformly to one substantially planar configuration as well as adjacent coils of said spring, when compressed, are free of contact.

It would have been obvious to one of ordinary skill in the art to modify the reference of Fry with the teaching of Wilson to utilize a coil spring having a constant transverse coil pitch to promote a repeatable, maximized, uniform reaction force along a central axis of said spring while minimizing potential deformity of said spring.

Re: **Claim 6**, Fry discloses wherein the vertically moving element is an elevator car.

Re: **Claim 9**, Fry discloses wherein a thickness of the outermost coil radially varies so as to create a substantially flat contact surface (Fig. 4).

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fry in view of Wilson, as applied to Claim 1, and in further view of Hongo (5,370,207).

Though Fry discloses counterweights (15), Fry is silent with respect to his vertically moving element that contacts his buffer is a counterweight.

Wilson is silent with respect to an elevator system.

Attention is directed to Hongo who reviews buffers as known in the art and his vertically moving element that contacts his buffer is a counterweight (Fig. 1, Col. 1, L. 30 – 40) as known in the art.

It would have been obvious to one of ordinary skill in the art to modify the invention of Fry and Wilson with the teaching of Hongo to position a buffer of Wilson beneath a counterweight of Fry as taught by Hongo to provide an energy-absorbing/releasing bearing surface for said counterweight when said counterweight is positioned in a lowermost position of a hoistway to facilitate lowering of an elevator car/upward movement of a counterweight.

Response to Arguments

Applicant's arguments filed 22 February 2010 have been fully considered but they are not persuasive.

The rejections of the previous office action were in response to the claim language.

As detailed above, the prior art structure is substantially identical to the claimed structure such that claimed properties or functions (highlighted and italicized above) are presumed to be inherent, thus presenting a *prima facie* case (*In re Best*, 562 F.2d 1252, 1255, 195 SUP 430, 433 [COCA 1977]) and properly shifting the burden of submitting evidence proving otherwise to the applicant (*In re Spade*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 [Fed.Cir. 1990]) in accordance with MPEP §2112.01. Mere allegation that the prior art is incapable of performing the claimed function, in a declaration or otherwise, is not considered proper evidence much less proof (*In re Schreiber*, 128 F.3d 1473, 1478 44 USPQ2d 1429, 1432 [Fed.Cir.1997]).

With respect to Fry not disclosing a thickness the innermost coil radially varies so as to create a substantially flat contact surface, as noted above, the uppermost portion of the coil of Fry affords a flat contact surface which is attributable to the innermost coil.

For teaching of wherein the outermost to the inmost coils uniformly form a flat contact surface, the teaching of Wilson is applicable.

Further to Wilson and applicant's arguments that Wilson does not provide a flat contact surface of his coils when his coils are fully compressed, due to the stud (10), the claims are directed to the coils only, whereby said coils do provide such. Additionally, with respect to the stud, Wilson reviews that the stud is not critical to his apparatus and may be omitted if desired (Pg. 3, L. 107 – 110).

Finally, with respect to the buffer of Fry not intended to act upon his elevator car in the event of an abnormal overrun, the spring of Fry is configured and positioned in a bottom of his hoistway and therefore meets the intended use of the claim language.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kessenich (2,161,820), Nakanishi (5,300,737) and Miller et al (5,899,300) are cited for reference of a inner collapsing, coiled spring, shock absorbing element that absorbs energy upon extension from its innermost- to its outermost coil; an

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elevator system with elevator car and counterweight, wherein a buffer comprising a coil spring is mounted in a bottom of a hoistway for contacting said counterweight; and an elevator system with elevator car and counterweight, wherein a buffer is mounted in a bottom of a hoistway for contacting a respective elevator car and counterweight, respectively.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stefan Kruer whose telephone number is 571.272.5913. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Q. Nguyen, can be reached on 571.272.6952. The fax phone number for the organization where this application or proceeding is assigned is 571.273.8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866.217.9197 (toll-free).

/Stefan Kruer/

Examiner, Art Unit 3654

7 June 2010

/John Q. Nguyen/

Supervisory Patent Examiner, Art Unit 3654